Complete Summary

GUIDELINE TITLE

Report on management of obstructive azoospermia.

BIBLIOGRAPHIC SOURCE(S)

Report on management of obstructive azoospermia. Baltimore (MD): American Urological Association, Inc.; 2001 Apr. 10 p. [22 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

- Obstructive azoospermia
- Infertility

GUIDELINE CATEGORY

Management
Treatment

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Obstetrics and Gynecology
Urology

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To offer recommendations for management of couples with infertility due to obstructive azoospermia

TARGET POPULATION

Couples with infertility due to obstructive azoospermia in the male partner

INTERVENTIONS AND PRACTICES CONSIDERED

Surgical treatment

1. Vasovasostomy
2. Vasoepididymostomy
3. Transurethral resection of the ejaculatory ducts

Assisted reproductive techniques

1. Sperm retrieval, including microsurgical epididymal sperm aspiration, percutaneous epididymal sperm aspiration, testicular sperm extraction, percutaneous testicular sperm aspiration, vasal sperm aspiration, and seminal vesicle sperm aspiration aided by transrectal ultrasonography
2. In vitro fertilization/intracytoplasmic sperm injection (IVF/ICSI)

MAJOR OUTCOMES CONSIDERED

- Return of sperm to ejaculate
- Pregnancy rate (with and without assisted reproductive techniques)
- Clinical pregnancy and delivery rates

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Not stated

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

The guideline developers reviewed cost analyses. Microsurgical vasovasostromy and vasoepididymostomy have been shown to be more cost-effective than sperm retrieval with in vitro fertilization/intracytoplasmic sperm injection (IVF/ICS).

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

This guideline document was submitted for peer review by 125 physicians and researchers from the disciplines of urology, gynecology, reproductive endocrinology, primary care and family medicine, andrology and reproductive laboratory medicine. Modifications were made by the Practice Committee of the American Society of Reproductive Medicine. After the final revisions were made based upon the peer review process and the Practice Committee of the American Society of Reproductive Medicine, the documents were submitted to, and approved by the Board of Directors of the American Urological Association and the Board of Directors of the American Society of Reproductive Medicine.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Microsurgical reconstruction of the reproductive tract is preferable to sperm retrieval with in vitro fertilization/intracytoplasmic sperm injection in men with prior vasectomy if the obstructive interval is less than 15 years and no female fertility risk factors are present. If epididymal obstruction is present, the decision to use either microsurgical reconstruction or sperm retrieval with in vitro fertilization/intracytoplasmic sperm injection should be individualized. Vasoepididymostomy should be performed by an expert in reproductive microsurgery.

Sperm retrieval/ intracytoplasmic sperm injection is preferred to surgical treatment when:

1. advanced female age is present
2. female factors requiring in vitro fertilization are present
3. the chance for success with sperm retrieval/intracytoplasmic sperm injection exceeds the chance for success with surgical treatment
4. sperm retrieval/intracytoplasmic sperm injection is preferred by the couple for financial reasons

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Following vasectomy reversal return of sperm to the ejaculate occurs in 70 to 95 percent of patients, and pregnancies are obtained without the need for assisted reproduction in 30 to 75 percent of couples. Following vasoepididymostomy, 20 to 40 percent of couples achieved pregnancy through intercourse and without assisted reproductive techniques. Transurethral resection of the ejaculatory duct results in the appearance of sperm in the ejaculate in about one-half to three-fourths of cases. The pregnancy rate achieved by this surgery is about 25 percent.
- Intracytoplasmic sperm injection provides fertilization rates of 45 to 75 percent per injected oocyte when surgically retrieved epididymal or testicular spermatozoa are used. Clinical pregnancy rates reported in the recent literature range from 26 to 57 percent and delivery rates range from 18 to 54

percent. At most reproductive centers, it is reasonable to expect clinical pregnancy rates of 30 to 40 percent and delivery rates of 25 to 30 percent when surgically retrieved epididymal or testicular sperm are used for intracytoplasmic sperm injection.

POTENTIAL HARMS

Risks associated with sperm retrieval

Sperm retrieval is best performed by a surgeon trained in this procedure, because the possible postoperative complications of sperm retrieval include bleeding and infection that may require surgical intervention.

Risks associated with in vitro fertilization/intracytoplasmic sperm injection (IVFI/ICSI)

Any couple considering in vitro fertilization/intracytoplasmic sperm injection should be apprised of the risks involved in this type of treatment. These include the possibility of ovarian hyperstimulation, the potential complications of oocyte retrieval and the risks and consequences of multiple gestations.

In vitro fertilization carries an incidence of mild ovarian hyperstimulation syndrome in up to 20 percent of patients. Moderate ovarian hyperstimulation occurs in up to 5 percent of women undergoing in vitro fertilization. Severe ovarian hyperstimulation, which may require hospitalization and may be life threatening, occurs in 1 percent of women undergoing in vitro fertilization.

The risk of multiple gestations after intracytoplasmic sperm injection in the United States is 30-35 percent for twin gestations and 5-10 percent for triplets or higher-order gestations. Multiple-gestation births are associated with increased infant morbidity and mortality rates due primarily to prematurity. The neonatal and maternal morbidity induced by multiple gestations accounts for the increased perinatal expense associated with multiple gestations. Whereas the in-hospital costs for delivery of a singleton child are typically less than $10,000, perinatal care for triplets averages more than $100,000.

QUALIFYING STATEMENTS

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This report is intended to provide medical practitioners with a consensus of principles and strategies for the care of couples with male infertility problems. The report is based on current professional literature, clinical experience and expert opinion. It does not establish a fixed set of rules or define the legal standard of care and it does not pre-empt physician judgment in individual cases. Physician judgment must take into account variations in resources and in patient needs and preferences. Conformance with this Best Practice Policy cannot ensure a successful result.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2001 Apr

GUIDELINE DEVELOPER(S)

American Society for Reproductive Medicine - Private Nonprofit Organization
American Urological Association, Inc. - Medical Specialty Society

GUIDELINE DEVELOPER COMMENT

This document was written by the Male Infertility Best Practice Policy Committee of the American Urological Association, Inc. (AUA) and the Practice Committee of the American Society for Reproductive Medicine (ASRM). The two organizations agreed to collaborate to prepare documents of importance in the field of male infertility. The Male Infertility Best Practice Policy Committee was created in 1999 by the Board of Directors of the American Urological Association, Inc.®

SOURCE(S) OF FUNDING

American Urological Association, Inc. (AUA)

GUIDELINE COMMITTEE

Male Infertility Best Practice Policy Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Committee Members: Ira D. Sharlip, M.D. (Co-Chair); Jonathan Jarow, M.D. (Co-Chair); Arnold M. Belker, M.D.; Marian Damewood, M.D.; Stuart S. Howards, M.D.; Larry I. Lipshultz, M.D.; Ajay Nehra, M.D.; James W. Overstreet, M.D., Ph.D.; Richard Sadovsky, M.D.; Peter Niles Schlegel, M.D.; Mark Sigman, M.D.; Anthony J. Thomas, Jr., M.D.

Consultant: Miriam Berman

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Committee members received no remuneration for their work. Each member of the Committee provided a conflict of interest disclosure to the American Urology Association (AUA).

GUIDELINE STATUS

This is the current release of the guideline.

An update is not in progress at this time.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the American Urological Association, Inc. (AUA) Web site.

Print copies: Available from the American Urological Association, Inc., 1000 Corporate Boulevard, Linthicum, MD 21090.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

The following are available for physicians to distribute to patients:

- A basic guide to male infertility. How to find out what´s wrong. Baltimore (MD): American Urological Association, Inc, 2001. Available in Portable Document Format (PDF) from the American Urological Association, Inc. (AUA) Web site.
- A basic guide to male infertility. Getting help for obstructive azoospermia. Baltimore (MD): American Urological Association, Inc, 2001. Available in

Portable Document Format (PDF) from the American Urological Association, Inc. (AUA) Web site.

NGC STATUS

This NGC summary was completed by ECRI on November 7, 2001. The information was verified by the guideline developer as of December 24, 2001.

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Date Modified: 11/15/2004